IN THE CLAIMS

1. (Currently amended) A method of preparing a ~~multi-use~~ biomolecule lysate, comprising the steps of:

(a) heating a composition comprising a histopathologically processed biological sample and a reaction buffer at a temperature and a time sufficient to reverse or release ~~negatively affect~~ protein cross-linking in said biological sample, and

(b) treating the resulting composition with an effective amount of a proteolytic enzyme for a time sufficient to disrupt the tissue and cellular structure of said biological sample, wherein said biomolecule lysate is in a soluble liquid form suitable for protein expression analysis and wherein the content of said lysate is representative of the total protein content of said histopathologically processed biological sample.

2. (Original) The method according to claim 1, wherein said histopathologically processed biological sample comprises a substantially homogeneous population of tissues or cells.

3. (Original) The method according to claim 1, further comprising, prior to step (a), the step of removing any paraffin present in said histopathologically processed biological sample by one or more methods selected from the group consisting of: adding an organic solvent; heating; heating and adding a buffer comprising Tris; and heating and adding an organic solvent.

4. (Original) The method according to claim 1, further comprising the step of mechanically disrupting said biological sample by at least one technique selected from the group consisting of: manual homogenization; vortexing; and physical mixing.

5. (Currently amended) The method according to claim 1, wherein in step (a) said biological sample is heated to a temperature between about 80°C and about 100°C.

6. (Currently amended) The method according to claim 1, wherein in step (a) said biological sample is heated for a period of time from about 10 minutes to about 4 hours.

7. (Original) The method according to claim 1, wherein said proteolytic enzyme treatment lasts for a period of time from about 30 minutes to about 24 hours.

8. (Original) The method according to claim 1, wherein said proteolytic enzyme treatment is carried out at a temperature between about 37°C to about 65°C.

9. (Original) The method according to claim 1 wherein said reaction buffer comprises a detergent.

10. (Original) The method according to claim 1 wherein step (b) is carried out in the presence of a detergent.

11. (Original) The method according to claim 9, wherein said detergent is selected from the group consisting of Nonidet P40, SDS, Tween-20, Triton X, and sodium deoxycholate.

12. (Original) The method according to claim 10, wherein said detergent is selected from the group consisting of Nonidet P40, SDS, Tween-20, Triton X, and sodium deoxycholate.

13. (Original) The method according to claim 1, wherein said proteolytic enzyme is selected from the group consisting of proteinase K, chymotrypsin, papain, pepsin, trypsin, pronase, and endoproteinase Lys-C.

14. (Original) The method according to claim 1, wherein said reaction buffer comprises Tris and has a pH in the range of about 6.0 to about 9.0.

15. (Original) The method according to claim 1 further comprising the step of fractionating said multi-use biomolecule lysate into distinct and separate biomolecule fractions.

16. (Original) The method according to claim 15 wherein each biomolecule fraction contains distinct and separate biomolecules suitable for use in biochemical assays.

17. (Original) The method according to claim 1, wherein said histopathologically processed biological sample is selected from a group consisting of formalin-fixed tissue/cells, formalin-fixed/paraffin embedded (FFPE) tissue/cells, FFPE tissue blocks and cells from those blocks, and tissue culture cells that have been formalin fixed and or paraffin embedded.

18. (Withdrawn) A kit for preparing a multi-use biological lysate comprising at least:

(a) histopathologically processed biological sample

(b) a proteolytic enzyme, and

(c) a detergent.

19. (Withdrawn) A method of detecting one or more analytes in a multi-use biomolecule lysate suspected of containing said one or more analytes, comprising the steps of:

(a) contacting a multi-use biomolecule lysate according to claim 1 with an array, wherein said array comprises one or more capture agents of known binding specificity immobilized on a support surface in a positionally distinguishable manner; and

(b) detecting the binding or absence of binding of one or more analytes in said lysate to said immobilized capture reagents.

20. (Withdrawn) The method according to claim 19, wherein at least one of said analytes is a protein.

21. (Withdrawn) The method according to claim 20, wherein said capture reagent is selected from the group consisting of antibodies and antibody fragments, single domain antibodies, engineered scaffolds, peptides, nucleic acid aptamers, a receptor moiety, affinity reagents, small molecules, and protein ligands.

22. (Withdrawn) The method according to claim 20, wherein the support surface comprises a material selected from the group consisting of glass, derivitized glass, silicon, derivitized silicon, porous silicon, plastic, nitrocellulose membranes, nylon membranes, ad PVDF membranes.

23. (Withdrawn) A method of analyzing a plurality of multi-use biomolecule lysates obtained from a plurality of histopathologically processed biological samples, comprising the steps of

(a) immobilizing a plurality of multi-use biomolecule lysates obtained from a histopathologically processed sample on a support surface, wherein each lysate is immobilized at a discrete location on said surface;

(b) contacting said support surface with a reagent of know binding affinity;

(c) detecting the presence or absence of binding of said reagent of known binding affinity at said discrete locations on said support surface.

24. (Withdrawn) The method according to claim 23, wherein the multi-use biomolecule lysate is spotted onto the support surface by a method selected from the group consisting of manual spotting, ink-jetting, robotic contact printing, robotic non-contact printing and piezoelectric spotting.

25. (Withdrawn) The method according to claim 23, wherein said reagent of known binding affinity is selected from the group consisting of antibodies and antibody fragments, single domain antibodies, engineered scaffolds, peptides, nucleic acid aptamers, a receptor moiety, affinity reagents, small molecules, and protein ligands.

26. (Withdrawn) The method according to claim 23, wherein said support surface comprises a material selected from the group consisting of glass, derivitized glass, silicon,

derivitized silicon, porous silicon, plastic, nitrocellulose membranes, nylon membranes, ad PVDF membranes.

27. (Withdrawn) The method according to claim 19 wherein at least one of said analytes is a nucleic acid.

28. (Withdrawn) The method according to claim 27, wherein said multi-use biomolecule lysate is subjected to a fractionation step prior to contacting said lysate with said array.

29. (Withdrawn) The method according to claim 27, wherein said nucleic acid comprises RNA.

30. (Withdrawn) The method according to claim 27, wherein said nucleic acid comprises DNA.

31. (Withdrawn) The method according claim 23, wherein the RNA-containing fraction of each lysate is immobilized on said support surface.

32. (Withdrawn) The method according to claim 19, wherein the detecting step (b) is carried out using a detection reagent that specifically binds to one or more of the analytes suspected to be present in said sample.

33. (Withdrawn) The method according to claim 32, wherein said detection reagents are proteins.

34. (Withdrawn) The method according to claim 23, wherein one or more of said multi-use biomolecule lysates is subjected to a fractionation step prior to immobilizing one or more of the resulting fractions on said surface.

35. (Withdrawn) The method according to claim 34, wherein the nucleic acid fraction of one or more lysates is immobilized on said surface.

36. (Withdrawn) The method according to claim 35, wherein said nucleic acid fraction is an RNA-containing fraction.

37. (Withdrawn) The method according to claim 35, wherein said nucleic acid fraction is a DNA-containing fraction.

38. (Withdrawn) The method according to claim 34, wherein said fraction is a protein-containing fraction.

39. (Withdrawn) The method according to claim 1, further comprising the step of subjecting the product of step (b) to at least one biochemical assay.